

NOTES ON NEW AND NOTEWORTHY PLANTS. LXXIII

Harold N. Moldenke

CEROTHAMNUS HETEROPHYLLUS (Raf.) Moldenke, comb. nov.

Myrica heterophylla Raf., Alsog. Amer. 9. 1838.

PAEPALANTHUS KARSTENII var. COREI Moldenke, var. nov.

Haec varietas a forma typica speciei scapis maturis plerumque 1--2 cm. altis recedit.

This variety differs from the typical form of the species in having its mature inflorescences on peduncles averaging only 1--2 cm. in length, mostly shorter than, equaling, or just barely surpassing the uppermost leaves.

The type of the variety was collected by my very good lifelong friend and colleague, Earl Lemley Core (no. 272a) -- in whose honor it is hereby named -- on a páramo above Purace, Cauca, Colombia, at an altitude of 11,000 feet, on February 19, 1944, and is deposited in the Britton Herbarium at the New York Botanical Garden.

TRACAULON ARIFOLIUM var. PUBESCENS (Keller) Moldenke, comb. nov.

Polygonum sagittatum var. pubescens Keller, Bull. Soc. Bot. Belg. 30 (2): 45. 1891.

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ADDITIONAL NOTES ON THE ERIOCAULACEAE. LI

Harold N. Moldenke

PAEPALANTHUS FOLIOSUS Körn.

Additional synonymy: Dupatya foliosa Kuntze apud Durand & Jacks., Ind. Kew. Suppl. 1, pr. 1, 145. 1902.

Bibliography: Körn. in Mart., Fl. Bras. 3 (1): 333--334 & 507. 1863; Kuntze, Rev. Gen. Pl. 2: 745. 1891; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 1, 2: 402. 1894; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 1, 145. 1902; Ruhl. in Engl., Pflanzenreich 13 (4-30): 190, 196, 197, [283], & 290. 1903; Alv. Silv., Fl. Mont. 1: 406. 1928; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 2, 145. 1941; Moldenke, Known Geogr. Distrib. Erioc. 12, 29, & 48. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 84 & 209. 1949; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 3, 145. 1959; Moldenke, Résumé 98, 280, & 487. 1959; Moldenke, Fifth Summ. 1: 162 & 481 (1971) and 2: 951. 1971.

This species is based on Sellow B.1298/C.276 from the Serra do Santo Antonio, Minas Gerais, Brazil, deposited in the Berlin Herbarium where it was photographed by Macbride as his type photograph

number 10607. Silveira (1928) cites A. Silveira 48 from the Serro Pouso Alto, Minas Gerais, collected in 1908. Ruhland (1903) cites only the type specimen.

The Mello Barreto 5301 [Herb. Jard. Bot. Belo Horiz. 12587], distributed in some herbaria as P. foliosus, is actually P. nigricaulis Alv. Silv.

Citations: BRAZIL: Minas Gerais: Sellow B.1298/C.276 [Macbride photos 10607] (B--type, B--isotype, N--photo of type, N--photo of type, W--photo of type, Z--isotype). MOUNTED ILLUSTRATIONS: drawings & notes by Körnigke (B).

PAEPALANTHUS FORMOSUS Moldenke, Bol. Soc. Venez. Cienc. Nat. 14: 11. 1952.

Bibliography: Moldenke, Bol. Soc. Venez. Cienc. Nat. 14: 11. 1952; Moldenke, Résumé 72 & 487. 1959; G. Taylor, Ind. Kew. Suppl. 12: 101. 1959; Tomlinson in C. R. Metcalfe, Anat. Monocot. 3: [146] & 166. 1969; Moldenke, Fifth Summ. 1: 125 (1971) and 2: 951. 1971; Moldenke, Phytologia 28: 436 & 439. 1974.

The Maguires report this plant as "abundant", "common", "frequent", and "locally common" on savannas, at altitudes of 1250 to 1500 meters, and describe it as a herbaceous perennial or biennial, 5--15 dm. tall, flowering and fruiting in February and March and dying after flowering. Murça Pires and his associates encountered it on savannas and in "terrestre à beira do campo" at 425 m. altitude, describe it as 1.5 m. tall, and found it in fruiting condition in December.

Citations: VENEZUELA: Amazonas: Maguire & Maguire 35177 (N, N), 35235 (N, N, N), 35274 (Mu, Mu, N, N), 35432 (N, N); Maguire, Phelps, Hitchcock, & Eudowski 31754 (N--type), 31784 (N, Ve). BRAZIL: Pará: Murça Pires, Black, Wurdack, & Silva 6372 (N, N), 6373 (N).

PAEPALANTHUS FRATERNUS N. E. Br., Trans. Linn. Soc. Lond. Bot., ser. 2, 6: 69--70. 1901.

Bibliography: N. E. Br., Trans. Linn. Soc. Lond. Bot., ser. 2, 6: 69--70. 1901; Burkill, Trans. Linn. Soc. Lond. Bot., ser. 3, 6: 13. 1901; Ruhl. in Engl., Pflanzenreich 13 (4-30): 222--223 & 290. 1903; Prain, Ind. Kew. Suppl. 3: 126. 1908; Moldenke, Known Geogr. Distrib. Erioc. 6, 48, & 60. 1946; Moldenke, Alph. List Cit. 2: 352 (1948) and 3: 975. 1949; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 64, 66, & 209. 1949; Moldenke, Phytologia 20: 109 & 296. 1970; Moldenke, Fifth Summ. 1: 125 & 130 (1971) and 2: 951. 1971.

This species is based on McConnell & Quelch 96 & 659 from the summit of Mount Roraima, at 8000 feet altitude, Guyana, and is deposited in the herbarium of the Royal Botanic Gardens at Kew. Ruhland (1903) inaccurately cites Brown's original reference as "Trans. Linn. Soc. VI, 1, (1901) 69" [actually it is in series 2, volume 6], and comments that the "Species mihi incognita, ex cl. descriptore cum P. falcato Koern. et P. flavescente Koern. (=Leio-

*thrix falcata* Ruhl. resp. *L. flavescens* Ruhl.) affinis. Sed in speciebus *Leiothricis capitula non albo-villosa*. Eadem species cum *P. Schomburgkii* Klotzsch affinis esse dicitur, sed hic verus *Paepalanthus* est et a speciebus 2 supra commemoratis *Leiothricis valde alienus*". Brown (1901) says that it is "Allied to *P. falcatus*, Koern., and *P. flavescens*, Koern. From the former it differs by its more rigid, channelled leaves, less woolly heads, and more acute involucre bracts, and from *P. flavescens*, Koern., by the narrower and more acute leaves, which have a different pubescence, and the very different flower-heads. It also appears to be near *P. Schomburgkii*, Klotzsch (which I have not seen), but that plant is described as having longer and broader leaves, striate, with prominent veins on the upper side, a subulate point to the peduncular sheath, much shorter peduncles, and glabrous involucre bracts."

Gleason, in his unpublished flora of British Guiana, describes *P. fraternus* as follows: "Caudex very short, densely woolly; leaves rosulate, rigid, more or less recurved, 2--3 mm. wide, 2--4 cm. long, broadly and abruptly dilated at base, white-pubescent above; peduncles 1--3, 1--4 dm. tall, sparsely villous, their sheaths much exceeding the leaves; heads hemispheric, 8--10 mm. wide, cinereous; bracts imbricate in several series, appressed, ovate, pubescent. Summit of Mount Roraima, McConnell & Quelch 96, 659, 660 (Jenman herbarium only), Tate 434, 451 (Endemic)."

Recent collectors have found this plant growing in acid mud and on dryish open savannas between low forests, at altitudes of 1925 to 3000 meters, flowering in January, February, April, and September, describing it as a low tufted herb, the hairy leaves flaccid, shining, rich-green or deep-green but not bluish-purple and *Stegolepis*-like as in *P. stegolepoides* Moldenke, the scales pale-green, the involucre blackish below, the bracts gray-brown, the flowering-heads dusky- or dull-white, and the flowers white. Wurdack refers to the species as "frequent in small clumps on the upper cumbre and in deep canyons", while he and Steyermark found it "locally frequent in dense masses".

*Wurdack 34213* is a mixture with *Syngonanthus acopanensis* Moldenke, while *Tate 434* is a mixture with *Leiothrix flavescens* var. *alpina* Moldenke. Material of *P. fraternus* has been misidentified and distributed in some herbaria as *P. convexus* Gleason.

Additional citations: VENEZUELA: Bolívar: Cardona 2703 (W-1997709); Irwin 447 (W-2197669); Pannier & Schwabe s.n. [Auyantepui] (Ve); J. A. Steyermark 58876 (N), 93897 (Lw, N, S), 93959 (Z); Steyermark & Wurdack 490 (Mu, N), 1045 (N); Vareschi & Foldats 4855 (Ve); Wurdack 34213, in part (N). GUYANA: G. H. H. Tate 434, in part (N), 451 (N).

PAEPALANTHUS FREYREYSII (Billb.) Körn. in Mart., Fl. Bras. 3 (1): 370 [as "freyreissii"]. 1863.

Synonymy: Eriocaulon freyreysii Billb. in Thunb., Pl. Bras. Dec. 1: 7, pl. 1, fig. 2. 1817. Eriocaulon freyreysii Billb. apud Roem. & Schult., Mant. 2: 468. 1824. Eriocaulon paludosum Bong., Mém. Acad. Imp. Sci. St. Pétersb., ser. 6, 1: 625—626 & 651, pl. 9. 1831. Eriocaulon freyreysii Thunb. ex Bong., Ess. Monog. Erioc. 34. 1831. Paepalanthus paludosus Kunth, Enum. Pl. 3: 502 & 625. 1841. Eriocaulon freurisii Billb. ex D. Dietr., Syn. Pl. 5: 266. 1852. Eriocaulon freyreissii Thunb. ex Steud., Syn. Pl. Glum. 2: [Cyp.] 278 & 334. 1855. Paepalanthus freyreissii Körn. in Mart., Fl. Bras. 3 (1): 370—371. 1863. Eupaepalanthus freyreissii Körn. ex V. A. Pouls., Vidensk. Meddel. Kjöbenh. 1888: 321. 1888. Dupatya freyreissii (Thunb.) Kuntze, Rev. Gen. Pl. 2: 745. 1891. Dupatya freyreissii Kuntze apud Durand & Jacks., Ind. Kew. Suppl. 1, pr. 1, 145. 1902. Paepalanthus freyreissii (Thunb.) Körn. ex Ruhl. in Engl., Pflanzenreich 13 (4-30): 135. 1903. Paepalanthus freyreissii Körn. ex Alv. Silv., Fl. Mont. 1: 406. 1928. Paepalanthus glaucus Mart. ex Moldenke, Fifth Summ. 2: 583, in syn. 1971.

Bibliography: Thunb., Pl. Bras. Dec. 1: 7, pl. 1, fig. 2. 1817; Roem. & Schult., Mant. 2: 468—469. 1824; Bong., Mém. Acad. Imp. Sci. St. Pétersb., ser. 6, 1: 625—626 & 651, pl. 9. 1831; Bong., Ess. Monog. Erioc. 5, 6, 13, 26, & 51—52, pl. 9. 1831; Steud., Nom. Bot., ed. 2, 1: 585. 1840; Kunth, Enum. Pl. 3: 502, 524, 572, 574, 578, 613, & 625. 1841; D. Dietr., Syn. Pl. 5: 259 & 266. 1852; Steud., Syn. Pl. Glum. 2: [Cyp.] 278—279 & 334. 1855; Körn. in Mart., Fl. Bras. 3 (1): 370—371 & 507. 1863; V. A. Pouls., Vidensk. Meddel. Kjöbenh. 1888: 321. 1888; Kuntze, Rev. Gen. Pl. 2: 745. 1891; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 1, 1: 878 & 879 (1893) and pr. 1, 2: 402. 1894; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 1, 145. 1902; Ruhl. in Engl., Pflanzenreich 13 (4-30): 125, 135—136, [283], 285, 286, 290, & 291. 1903; Alv. Silv., Fl. Mont. 1: 102 & 406. 1928; Stapf, Ind. Lond. 3: 90 & 91. 1930; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 2, 145. 1941; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 2, 1: 878 & 879 (1946) and pr. 2, 2: 402. 1946; Moldenke, Known Geogr. Distrib. Erioc. 12, 29, 35, 38, 48, & 52. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 84 & 209. 1949; Moldenke, Phytologia 4: 114. 1952; Moldenke, Résumé 98, 280, 288, 291, 294, 325, 327, & 487. 1959; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 3, 145. 1959; Moldenke, Résumé Suppl. 1: 20. 1959; Rennó, Levant. Herb. Inst. Agron. 70. 1960; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 3, 1: 878 & 879 (1960) and pr. 3, 2: 402. 1960; Moldenke, Résumé Suppl. 17: 3, 10, & 11 (1968) and 18: 10. 1969; Tomlinson in C. R. Metcalfe, Anat. Monocot. 3: 149, 166, 174, & 189. 1969; Moldenke, Phytologia 20: 113 & 259. 1970; Moldenke, Fifth Summ. 1: 162 & 481 (1971) and 2: 500, 508, 518, 583, 587, & 951. 1971; Moldenke, Phytologia 25: 162. 1973.

Illustrations: Thunb., Pl. Bras. Dec. 1: pl. 1, fig. 2. 1817; Bong., Mém. Acad. Imp. Sci. St. Pétersb., ser. 6, 1: pl. 9. 1831;

Bong., Ess. Monog. Erioc. pl. 9. 1831.

This species appears to be based on Freyreiss 7 deposited in the Stockholm herbarium, while Eriocaulon paludosum is based on L. Riedel 445 from Itacolumi, Minas Gerais, Brazil, deposited at Leningrad. The type of P. glaucus is Martius s.n. from "in fontium limpidorum margine ad Villa do Principe in Serro Frio", Minas Gerais, Brazil, deposited in the herbarium of the Botanical Museum at Munich.

Billberg (1817) comments: "Obs. Flores feminei cum masculis in disco mixti, nec in radio siti, ut in E. sexangulari. Eriocaulon omnia monica esse videntur." Dietrich (1852) describes the plant simply as "culmo 3-gono; fol. setaceo-linearibus; capitulo hemisphaerico. In Brasilia. ☉."

Jackson (1893) reduces Eriocaulon paludosum to Paepalanthus plantagineus (Bong.) Körn. Kunth (1841) maintains that the species under discussion here is related to what is now called Leiothrix graminea (Bong.) Ruhl. and to L. spiralis (Bong.) Ruhl., but this resemblance is certainly only superficial. The P. Clausen s.n., distributed as P. freyreysii, is actually P. cachambuensis Alv. Silv.

Recent collectors have found P. freyreysii growing in swamps, Sphagnum bogs, rocky soil, and damp sandy rather stony soil, flowering in February, June to August, and December.

Silveira (1928) cites A. Silveira 259 from Itacolumi, Minas Gerais, deposited in his own herbarium. Ruhland (1903) cites, also from Minas Gerais, Freyreiss s.n., Glaziou 15545 & 18585, Langsdorff s.n., Magalhães Gomes, Herb. Geogr. & Geol. Minas 625, Martius s.n., Pohl s.n., L. Riedel 445, Schwacke 9205, 9326, 9977, & 12381, and Vauthier s.n., all deposited in the Berlin herbarium.

Additional citations: BRAZIL: Minas Gerais: Freyreiss 7 (F—photo of type, N—photo of type, S—type, Z—photo of type); Glaziou 15545 (Br, N); Magalhães Gomes & Silveira 67 [Herb. Jard. Bot. Belo Horiz. 26711] (N); Martius s.n. [Villa do Principe, Serro Frio; N. Y. Bot. Gard. type photos, new ser., neg. 8838] (Mu, N—photo, Z—photo); J. E. Pohl s.n. [in irriguis montanis, 1818] (Br); L. Riedel 445 [N. Y. Bot. Gard. type photos, new ser., neg. 8837] (B, Mu, N—photo, Ut—361, Z—photo), 448 (M, N—photo, S, Z—photo). MOUNTED ILLUSTRATIONS: drawings & notes by Körnicke (B); Bong., Mém. Acad. Imp. Sci. St. Pétersb., ser. 6, 1: pl. 9. 1831 (N, Z).

PAEPALANTHUS FULGIDUS Moldenke in Maguire & Wurdack, Mem. N. Y. Bot. Gard. 9: 279—280. 1957.

Bibliography: Moldenke in Maguire & Wurdack, Mem. N. Y. Bot. Gard. 9: 279—280. 1957; Moldenke, Résumé 72 & 487. 1959; G. Taylor, Ind. Kew. Suppl. 13: 98. 1966; Moldenke, Fifth Summ. 1: 125 (1971) and 2: 951. 1971; Moldenke, Phytologia 23: 211 & 418.

1972; Anon., Biol. Abstr. 54 (4): B.A.S.I.C. S.189. 1972; Moldenke, Biol. Abstr. 54: 1725. 1972; Hocking, Excerpt. Bot. A.23: 290. 1974.

Citations: VENEZUELA: Bolívar: B. Maguire 33383a (N-type).

PAEPALANTHUS FULGIDUS var. ZULOAGENSIS Moldenke, Phytologia 23: 211. 1972.

Bibliography: Moldenke, Phytologia 23: 211 & 418. 1972; Anon., Biol. Abstr. 54 (4): B.A.S.I.C. S.189. 1972; Moldenke, Biol. Abstr. 54: 1725. 1972; Hocking, Excerpt. Bot. A.23: 290. 1974.

Citations: BRAZIL: Amazõnas: J. A. Steyermark 103839 (N-type).

PAEPALANTHUS FUNCKEANUS Körn. in Mart., Fl. Bras. 3 (1): 404-405. 1863.

Synonymy: Dupatya funkeana (Körn.) Kuntze, Rev. Gen. Pl. 2: 745. 1891. Dupatya funkeana Kuntze apud Durand & Jacks., Ind. Kew. Suppl. 1, pr. 1, 145. 1902. Paepalanthus funckianus Körn. apud Ruhl. in Engl., Pflanzenreich 13 (4-30): 206. 1903. Dupatya funckiana Kuntze apud Ruhl. in Engl., Pflanzenreich 13 (4-30): 206, in syn. 1903. Dupatya funckeana Kuntze apud Ruhl. in Engl., Pflanzenreich 13 (4-30): [283], in syn. 1903.

Bibliography: Körn. in Mart., Fl. Bras. 3 (1): 404-405, 502, & 507. 1863; Kuntze, Rev. Gen. Pl. 2: 745. 1891; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 1, 2: 402. 1894; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 1, 145. 1902; Ruhl. in Engl., Pflanzenreich 13 (4-30): 201, 206, [283], & 290. 1903; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 2, 145. 1941; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 2, 2: 402. 1946; Moldenke, Known Geogr. Distrib. Erioc. 6, 29, & 48. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 64 & 209. 1949; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 3, 145. 1959; Moldenke, Résumé 72, 280, 325, & 487. 1959; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 3, 2: 402. 1960; Moldenke, Résumé Suppl. 18: 9. 1969; Moldenke, Fifth Summ. 1: 125 & 481 (1971) and 2: 951. 1971.

This species is based on Funck & Schlim 809 from Agua de Obispo, at an altitude of 2600 meters, Trujillo, Venezuela, flowering in August, and deposited in the Berlin herbarium. An isotype in the Delessert Herbarium at Geneva was photographed there by Macbride as his type photograph number 25168. The surname of the first of the two collectors is misspelled [Funcke] in the Brussels herbarium and elsewhere.

Ruhland (1903) comments that the "Vaginae a cl. Koernicke non recte descriptae". He cites only the original collection, which seems to be the only collection known so far.

Citations: VENEZUELA: Trujillo: Funck & Schlim 809 [Macbride photos 25168] (B-type, Br-isotype, N-isotype, N-photo of isotype, N-photo of isotype, W-photo of isotype).

PAEPALANTHUS FUSCOATER Körn. in Mart., Fl. Bras. 3 (1): 382-383. 1863.

Synonymy: *Paepalanthus fusco-ater* Körn. in Mart., Fl. Bras. 3 (1): 507. 1863. *Dupatya fuscoater* (Körn.) Kuntze, Rev. Gen. Pl. 2: 745. 1891. *Dupatya fuscoater* Kuntze apud Durand & Jacks., Ind. Kew. Suppl. 1, pr. 1, 145. 1902. *Dupatya fuscoatra* Kuntze apud Ruhl. in Engl., Pflanzenreich 13 (4-30): 179, in syn. 1903.

Bibliography: Körn. in Mart., Fl. Bras. 3 (1): 290, 382-383, & 507. 1863; Kuntze, Rev. Gen. Pl. 2: 745. 1891; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 1, 2: 402. 1894; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 1, 145. 1902; Ruhl. in Engl., Pflanzenreich 13 (4-30): 179, [283], & 290. 1903; Alv. Silv., Fl. Mont. 1: 181 & 407. 1928; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 2, 145. 1941; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 2, 2: 402. 1946; Moldenke, Known Geogr. Distrib. Erioc. 12, 29, & 48. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 84 & 209. 1949; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 3, 145. 1959; Moldenke, Résumé 98, 280, & 487. 1959; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 3, 2: 402. 1960; Moldenke, Fifth Summ. 1: 162 & 481 (1971) and 2: 583 & 951. 1971; Moldenke, Phytologia 26: 144. 1973.

This species is based on a Riedel collection from stony localities near Tejuco, Minas Gerais, Brazil, flowering in December, and deposited in the Berlin herbarium. Ruhland (1903) cites only the original collection and this appears to be the only known collection of the species so far. He comments that "Petalarum tubo floris ♂ intus piloso insignis".

PAEPALANTHUS FUSCOATER var. MINOR Alv. Silv., Fl. Mont. 1: 181 [as "minora"]. 1928.

Synonymy: *Paepalanthus fuscoater* var. *minora* Alv. Silv., Fl. Mont. 1: 181 & 407. 1928.

Bibliography: Alv. Silv., Fl. Mont. 1: 181 & 407. 1928; Moldenke, Known Geogr. Distrib. Erioc. 12 & 48. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 84 & 209. 1949; Moldenke, Résumé 98, 325, & 487. 1959; Moldenke, Fifth Summ. 1: 162 (1971) and 2: 583 & 951. 1971.

This variety is based on *A. Silveira* 782 collected in sandy fields between Serro and Diamantina, in the Serra Geral, Minas Gerais, Brazil, in January of 1925, and deposited in the Silveira herbarium. Silveira (1928) describes it as "Folia minora - 2-4 cm longa, 1,5-3-mm medio lata" and on page 407 of his work gives the date of collection as "1926", but whether this is a misprint or is intended as a correction of the date previously given is not clear.

PAEPALANTHUS FUSCUS Alv. Silv., Fl. Mont. 1: 243-244, pl. 162. 1928.

Bibliography: Alv. Silv., Fl. Mont. 1: 243-244 & 407, pl. 162. 1928; Wangerin in Just, Bot. Jahresber. 57 (1): 476. 1937; A. W. Hill, Ind. Kew. Suppl. 9: 199. 1938; Worsdeil, Ind. Lond. Suppl. 2: 183. 1941; Moldenke, Known Geogr. Distrib. Erioc. 12 & 48. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 84 &

209. 1949; Moldenke, *Phytologia* 4: 144. 1952; Moldenke, *Résumé* 98 & 487. 1959; Moldenke, *Fifth Summ.* 1: 162 (1971) and 2: 952. 1971.

Illustrations: *Alv. Silv., Fl. Mont.* 1: pl. 162. 1928.

This species is based on A. Silveira 786, collected in sandy fields between Diamantina and Serro, in the Serra Geral, Minas Gerais, Brazil, in June of 1925, and deposited in the Silveira herbarium. On page 407 of his work, Silveira (1928) gives "1926" as the date of collection, but, again, whether this is a misprint or is meant to be a correction of the date given in the original description is not clear. Also, in his text Silveira cites the illustration as plate "CXLII", but plate 142 is actually an illustration of P. percrassus *Alv. Silv.* and is in its proper sequence. The illustration of P. fuscus should have been cited by him as pl. 162, which it actually is. Thus far the species is known only from the type collection.

PAEPALANTHUS GARDNERIANUS Walp., *Ann. Bot. Syst.* 1: 889. 1849.

Synonymy: Cladocaulon brasiliense G. Gardn. in Hook. f., *Icon. Pl.* 6 [ser. 2, 2]: pl. 528. 1843 [not Paepalanthus brasiliensis (Mart.) Mart., 1855]. Eriocaulon cladocaulon Steud., *Syn. Pl. Glum.* 2: [Cyp.] 276. 1855. Dupatya gardneriana (Walp.) Kuntze, *Rev. Gen. Pl.* 2: 745. 1891. Dupatya gardneriana Kuntze apud Ruhl. in Engl., *Pflanzenreich* 13 (4-30): 176, in syn. 1903.

Bibliography: G. Gardn. in Hook. f., *Icon. Pl.* 6 [ser. 2, 2]: vi & viii, pl. 528. 1843; Walp., *Ann. Bot. Syst.* 1: 889. 1849; Steud., *Syn. Pl. Glum.* 2: [Cyp.] 276, 333, & 342. 1855; Körn. in Mart., *Fl. Bras.* 3 (1): 278, 373-374, & 507. 1893; Benth. in Benth. & Hook. f., *Gen. Pl.* 3 (2): 1023. 1883; Hieron. in Engl. & Prantl, *Nat. Pflanzenfam.*, ed. 1, 2 (4): 22. 1888; Kuntze, *Rev. Gen. Pl.* 2: 745. 1891; Jacks. in Hook. f. & Jacks., *Ind. Kew.*, pr. 1, 1: 552 & 878 (1893) and pr. 1, 2: 402. 1894; Durand & Jacks., *Ind. Kew. Suppl.* 1, pr. 1, 145. 1902; Ruhl. in Engl., *Pflanzenreich* 13 (4-30): 173, 175, 176, [283], 285, & 290. 1903; Ruhl. in Engl. & Prantl, *Nat. Pflanzenfam.*, ed. 2, 15a: 40. 1930; Durand & Jacks., *Ind. Kew. Suppl.* 1, pr. 2, 145. 1941; Jacks. in Hook. f. & Jacks., *Ind. Kew.*, pr. 2, 1: 552 & 878 (1946) and pr. 2, 2: 402. 1946; Moldenke, *Known Geogr. Distrib. Erioc.* 12, 28, 29, 33, & 48. 1946; Moldenke, *Known Geogr. Distrib. Verbenac.*, [ed. 2], 84 & 209. 1949; Moldenke, *Phytologia* 4: 144. 1952; Moldenke, *Résumé* 98, 259, 280, 287, & 487. 1959; Durand & Jacks., *Ind. Kew. Suppl.* 1, pr. 3, 145. 1959; Jacks. in Hook. f. & Jacks., *Ind. Kew.*, pr. 3, 1: 552 & 878 (1960) and pr. 3, 2: 402. 1960; Moldenke, *Fifth Summ.* 1: 162, 438, & 481 (1971) and 2: 497 & 952. 1971; Moldenke, *Phytologia* 26: 142. 1973.

Illustrations: G. Gardn. in Hook. f., *Icon. Pl.* 6 [ser. 2, 2]: pl. 528. 1843.

Ruhland (1903) cites the original publication of Paepalanthus gardnerianus Walp. (1849) as "1848", but actually only pages 1-384 of Walper's work were published in 1848; pages 385-1127 did not actually appear in print until 1849.



Cladocaulon brasiliense G. Gardn. is actually the type species of the genus Cladocaulon. Its specific type is G. Gardner 5250, which, he says, was "Rare on the ascent of Serra da Mendanha, from the Rio Jiquitimonha, [in the] Diamond district", Minas Gerais, Brazil, collected in July, 1840. Walpers' binomial is based on the same type and he notes that "Generice a Paepalanthus non differt". Ruhland (1903) cites only the type collection and notes "Specimen non vidi". Only the one previously cited isotype has been seen by me.

Gardner (1843) says that "The remarkable habit of this plant, as well as the curious structure of the female flowers, justly entitle it to rank as a distinct genus. The habit is well represented by the artist [of plate 528], but the dissections are very far from being correct. The female flower I always find to be such as is given in the description, and not that of a true species of Paepalanthus, as represented in the plate. Nor are the lobes of the inner series of the perianth of the male flower pilose."

It is perhaps worth noting here that the note appended to a clipping in the herbarium of the New York Botanical Garden implying that the original publication of the name, P. gardnerianus, should be credited to "L. C. Rich. in Walp., Ann. Bot. Syst. 1: 889. 1848" is erroneous. Consultation of the original reference shows plainly that Richard is there cited as the original authority for the group name Eriocaulaeae, not as author of the descriptions which follow in that section of the work. It should also be mentioned that "270" is sometimes cited as the page of the original publication of Eriocaulon cladocaulon Steud., but this is apparently a typographic error for "276".

PAEPALANTHUS GARIMPENSIS Alv. Silv., Fl. Mont. 1: 251—253, pl. 162. 1928.

Bibliography: Alv. Silv., Fl. Mont. 1: 251—253 & 407, pl. 162. 1928; Wangerin in Just, Bot. Jahresber. 57 (1): 476. 1937; A. W. Hill, Ind. Kew. Suppl. 9: 199. 1938; Worsdell, Ind. Lond. Suppl. 2: 183. 1941; Moldenke, Known Geogr. Distrib. Erioc. 12 & 48. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 84 & 209. 1949; Moldenke, Résumé 98 & 487. 1959; Rennó, Levant. Herb. Inst. Agron. 70. 1960; Moldenke, Fifth Summ. 1: 162 (1971) and 2: 952. 1971.

Illustrations: Alv. Silv., Fl. Mont. 1: pl. 167. 1928.

Silveira (1928) bases this species on A. Silveira 557, collected "Secus margines rivuli in campis in Serra do Garimpo, inter Casté et Santa Barbara", Minas Gerais, Brazil, in April of 1909, but on p. 407 of the same work he cites Silveira 909 from "Serra do Garimpo prope Cocaes, 1909", perhaps as a second collection. On p. 253 he cites his illustration as "Tabula CLXII", but the plate itself is labeled "CLXVII". He comments that the "Species inter illas quae bracteas involucrentes discum paullum superantes habent, calore bractearum involucrentium facile distinguitur."

[to be continued]